VX-VGA520-TA VX-VGA520-TB
VX-VGA520-RA VX-VGA520-RB
VX-VGA520-K VX-VGA520-PS

Mini CATx VGA Extenders

Use a single UTP CAT5/5e/6 cable to extend VGA signals up to 500 feet (150 meters) away from a video source.

Customer Support Information

Order toll-free in the U.S.: Call 877-877-BBOX (outside U.S. call 724-746-5500) • FREE technical support 24 hours a day, 7 days a week: Call 724-746-5500 or fax 724-746-0746 • Mailing address: Black Box Corporation, 1000 Park Drive, Lawrence, PA 15055-1018
Web site: www.blackbox.com • E-mail: info@blackbox.com

FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

Normas Oficiales Mexicanas (NOM)Electrical Safety Statement
INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.

5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.

6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.

7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.

8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.

9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.

10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.

11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.

12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.

13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.

14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.

15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.

16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.

18. Servicio por personal calificado deberá ser provisto cuando:

    A: El cable de poder o el contacto ha sido dañado; u

    B: Objectos han caído o líquido ha sido derramado dentro del aparato; o

    C: El aparato ha sido expuesto a la lluvia; o

    D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o

    E: El aparato ha sido tirado o su cubierta ha sido dañada.

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1. Specifications

Enclosure Material: VX-VGA520-TA, VX-VGA520-RA: plastic;
VX-VGA520-TB, VA-VGA520-RB: aluminum

Extension Distance (Maximum): 480 ft. (150 m)*

Video Resolution (Maximum): 1920 x 1080 (full HD), 1920 x 1200 (WUXGA)

Connectors: VX-VGA520-TA: Input: (1) HD15 M;
Output: (1) RJ-45 F;
VX-VGA520-TB: Input: (1) HD15 F;
Output: (1) RJ-45 F;
VX-VGA520-RA: Input: (1) RJ-45 F;
Output: (1) HD15 M;
VX-VGA520-RB: Input: (1) RJ-45 F;
Output: (1) HD15 F

Indicators: VX-VGA520-TA, VX-VGA520-TB: (1) power/EDID copy dual-color LED;
VX-VGA520-RA, VX-VGA520-RB: (1) power LED

Power: 9–12-VDC power supply (VX-VGA520-PS)

Size: VX-VGA520-TA, VX-VGA520-RA (Mobile): 3"H x 2"W x 1"D (7.6 x 5.1 x 2.5 cm) dongle with 8" (20.3 cm) VGA pigtail;
VX-VGA520-TB, VX-VGA520-RB (Wallplate): Standard single-gang wallplate: 4.5"H x 2.75"W x 1"D (11.4 x 6.9 x 2.5 cm);

Weight: 0.2 lb. (0.1 kg)

*Use good-quality CAT5 cable to achieve maximum distance. Higher resolution is limited to shorter cable lengths.

2. Overview

2.1 Introduction

The space-saving Mini CATx VGA Extender system consists of a transmitter and a receiver that allow you to extend VGA signals up to 480 feet (150 meters) away from a video source using a single UTP CAT5/5e/6 cable. It supports most popular Windows®, Mac®, Sun®, and Linux® operating systems.

Choose from the following mobile or wallplate models:

- Mini CATx VGA Transmitter, Mobile (VX-VGA520-TA)
- Mini CATx VGA Receiver, Mobile (VX-VGA520-RA)
- Mini CATx VGA Transmitter, Wallplate (VX-VGA520-TB)
- Mini CATx VGA Receiver, Wallplate (VX-VGA520-RB)

You will also need the following power supply:

- Mini CATx VGA Power Supply (VX-VGA520-PS)

You may also buy the VX-VGA520-K kit. It includes (1) Mini CATx VGA Transmitter, Mobile (VX-VGA520-TA), (1) Mini CATx VGA Receiver, Mobile (VX-VGA520-RA), and (1) Mini CATx VGA Power Supply (VX-VGA520-PS)

The transmitter's EDID Copy function enables the best video presentations, and the receiver's RGB Skew feature enables you to manually and intuitively adjust video quality according to the length of CAT5 cable. Its compact design offers convenient installation and saves space. For example, if the display is exposed in a public area, you can keep the system in a safe location. It is perfect for situations that require immediate and easy set up, such as presentations from commercial products to corporate financial data in showrooms, boardrooms, trade shows, window displays, classrooms, and training facilities.

2.2 Features

- Extends video signals up to 500 feet (150 m) away from a transmitter
- Supports video resolutions up to 1920 x 1080 (Full HD), 1920 x 1200 (WUXGA)
- Plug-n-play enabled in Windows, Mac, Sun, and Linux platforms
- No driver needed or software required
- EDID Copy function gives your application its best resolution for presentations
- EQ (Sharpness) adjustment ensures optimal signal clarity

- Compatible with most popular screen resolutions up to XGA, SXGA, UXGA, WSXGA,…Full HD, WUXGA
- Low-cost CAT5/5e/6 cable is readily available and easy to install

2.3 What's Included

Your extender package should contain the following items. If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

VX-VGA520-TA:

- (1) Extender Transmitter Unit (Mobile)
- This user's manual

VX-VGA520-RA:

- (1) Extender Receiver Unit (Mobile)
- This user's manual

VX-VGA520-TB:

- (1) Extender Transmitter Unit (Wallplate)
- (1) package of screws
- This user's manual

VX-VGA520-RB:

- (1) Extender Receiver Unit (Wallplate)
- (1) package of screws
- This user's manual

VX-VGA520-PS:

- (1) 9-12-VDC power supply
- This user's manual

VX-VGA520-K:

- (1) Mini CATx VGA Transmitter, Mobile (VX-VGA520-TA)
- (1) Mini CATx VGA Receiver, Mobile (VX-VGA520-RA)
- (1) 9-12-VDC power supply (VX-VGA520-PS)
- This user's manual

2.4 Hardware Description

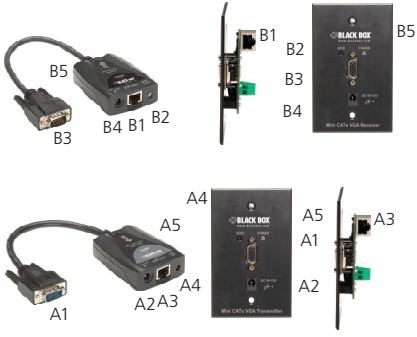

Figure 2-1. Transmitter and Receiver.

Table 2-1. Transmitter and Receiver functions.

Diagram Label	Component	Function
Transmitter:		
A1	VGA port	Connects to a video source.
A2	Power supply	Connects to a 9-12-VDC power adapter.
A3	RJ-45 connector	Connects to a receiver unit.
A4	EDID copy button	1. Copy the EDID of the connected (A1) monitor.
		2. Use the default EDID.
A5	LED indicator	Lights green when power is on.
		Lights red to indicate EDID copy status (see Chapter 4, Operation).
Receiver:		
B1	RJ-45 connector	Connects to a transmitter unit.
B2	Video equalization	Enables you to manually adjust the video quality.
B3	VGA port	Connects to a VGA monitor.
B4	Power supply	Links to a 9–12-VDC power adapter.
B5	LED indicator	Lights green when power is on.

2.5 Typical Application

Figure 2-2 shows a typical application using the extender units.

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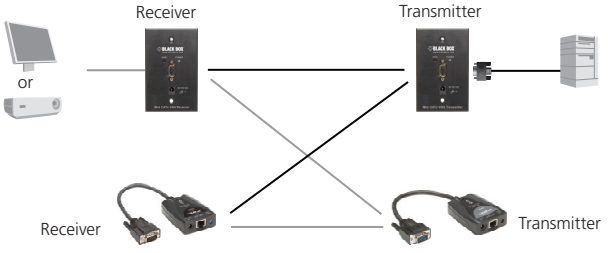

NOTE: Requires DC power at either transmitter or receiver.

Figure 2-2. How the extender works.

3. Installation

3.1 Before Installation

- Power off all devices that you will connect to this system.
- Make sure that all devices you will connect are properly grounded.
- Place cables away from fluorescent lights, air conditioners, and machines that are likely to generate electrical noise.
- The extender pair requires only a single power supply, which can be plugged in at either end of the link.

3.2 Installing the Transmitter

1. Connect one end of the VGA cable to the VGA port on the source device (for example, PC or DVD player).
2. Connect the other end of the VGA cable to the VGA port of the transmitter unit.
3. The transmitter unit draws little power from the receiver unit (except when processing EDID Copy data).

3.3 Installing the Receiver

4. Plug the monitor's VGA cable into the VGA port on the receiver unit.
5. Using a CATx cable, connect the transmitter unit to the receiver unit.
6. Connect the provided power cord into an appropriate power source and plug the opposite end into the power connector on the receiver unit. The POWER LED on the top panel of the receiver lights GREEN indicating that the power is ON.

NOTE: To improve video quality over long distances, use a screwdriver to manually adjust the video quality.

NOTE: To get best video quality over long distance, use sufficient power for the receiver unit.

4. Operation

4.1 EDID Copy (on Transmitter Unit)

In some cases, users may experience display problems. This can be caused by incorrect EDID communication between the display monitor and the PC graphics card, or insufficient EDID data programmed by display manufacturers. The transmitter units have an "EDID Copy" feature that enables the unit to read the necessary EDID information from the attached video display and then deliver it at all times to the attached computer. If no new EDID information is available from a display, a default profile in the transmitter unit is automatically provided instead.

For best EDID communication when the computer is booting up, you should implement the EDID Copy feature on the transmitter before operation. This is described next.

4.2 Use (Load) the Default Setting

When using a monitor that's not EDID compliant for display, the transmitter will automatically select viable EDID data from its default EDID profile to set up the EDID information. Follow the instructions below:

Step 1. Plug in the included power cord to power "ON" the transmitter unit.

Step 2. Press and hold the "EDID Copy" button on the unit and release the button RIGHT AFTER the LED starts flashing red (approximately 6–7 seconds).

Step 3. The power LED lights steady GREEN, indicating that the EDID Copy is completed.

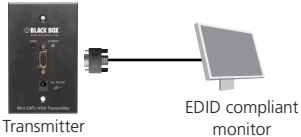

Figure 4-1. Transmitter connected to EDID compliant monitor.

4.3 Copy (New) Monitor EDID

When using a monitor (EDID compliant) for display, the transmitter's EDID Copy function will enable EDID communication between the monitor and transmitter for optimal video quality. Follow the instructions below:

Step 1. Power "ON" the transmitter unit.

Step 2. Connect the EDID-compliant monitor to the VGA port on the transmitter unit and power on the monitor.

Step 3. Press the button "EDID Copy" button and release the button RIGHT AFTER the LED starts flashing green (approximately 3–4 seconds).

Step 4. The power LED lights steady GREEN, indicating that the EDID Copy is completed.

NOTE: If the LED flashes RED, check the following:

a. Is the monitor properly connected?

b. Is the monitor powered on?

c. The monitor's EDID data might not be applied. Repeat Steps 2 and 3 above.

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Great tech support is just 30 seconds away
at 724-746-5500 or blackbox.com.

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VX-VGA520-TA, rev. 2